

Status and Trends of Irrigated Agriculture in Texas

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Economic Importance of Irrigation

- Statewide economic value = \$4.7 billion (2007)
- Regional Economic Impacts
 - Texas High Plains = \$2.2 billion & 7,300 jobs
 - Winter Garden = \$77 million & 872 jobs
 - Uvalde County = \$44 million & 600 jobs
 - Middle Gulf Coast = \$441 million & 3,900 jobs

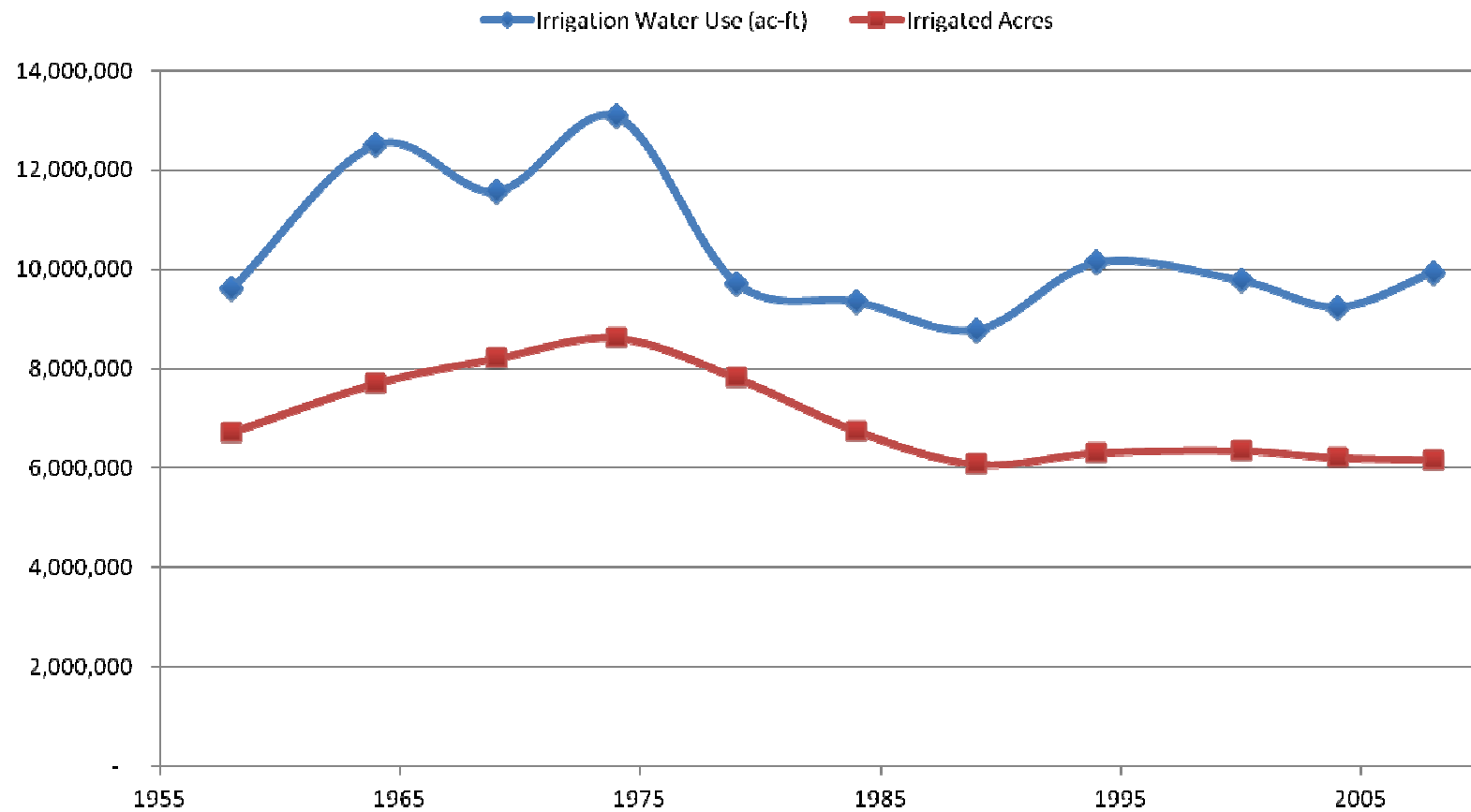


Recent Headlines

- Texas must limit agricultural water use
 - May 29, 2012 Houston Chronicle article
- Environment Texas calls on Legislature to stop water hogs
 - July 2012 story on KVUE News & other media



Ag irrigation in Texas (1958-2008)



Source: TWDB Report 347 & Irrigation Water Use Estimates



Comparison of annual rates of irrigation application in Texas

Agricultural

- Irrigation varies by crop
 - Corn = 20 inches
 - Sorghum = 10 inches
 - Wheat = 12 inches
 - Rice = 30 inches
 - Cotton = 13 inches
- Statewide mean = 18 inches

Urban lawns and landscapes

- Warm season turf uses 40-60"
- College Station = 22" applied
- No statewide mean available

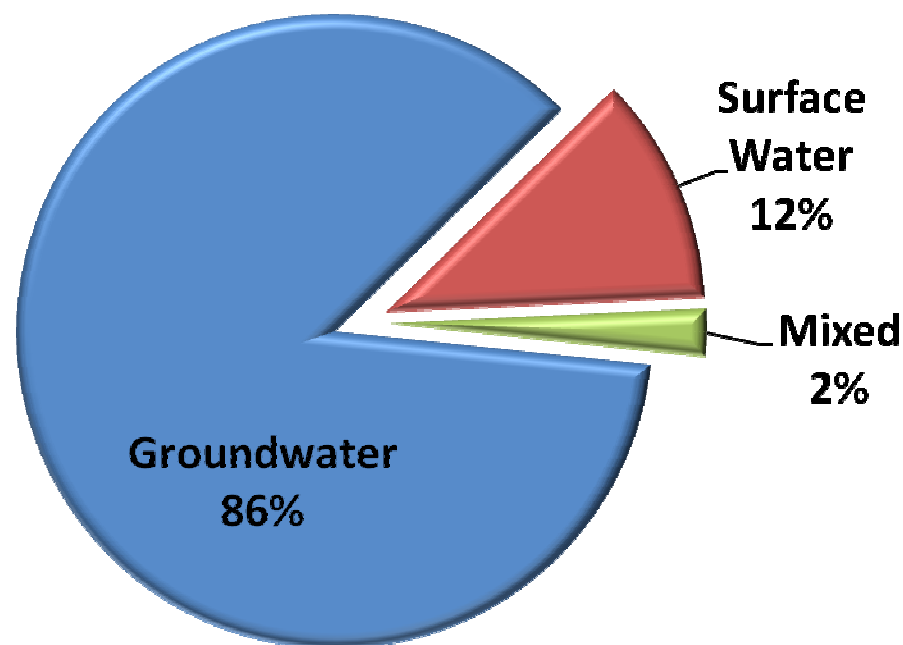




Groundwater is primary water source for irrigation



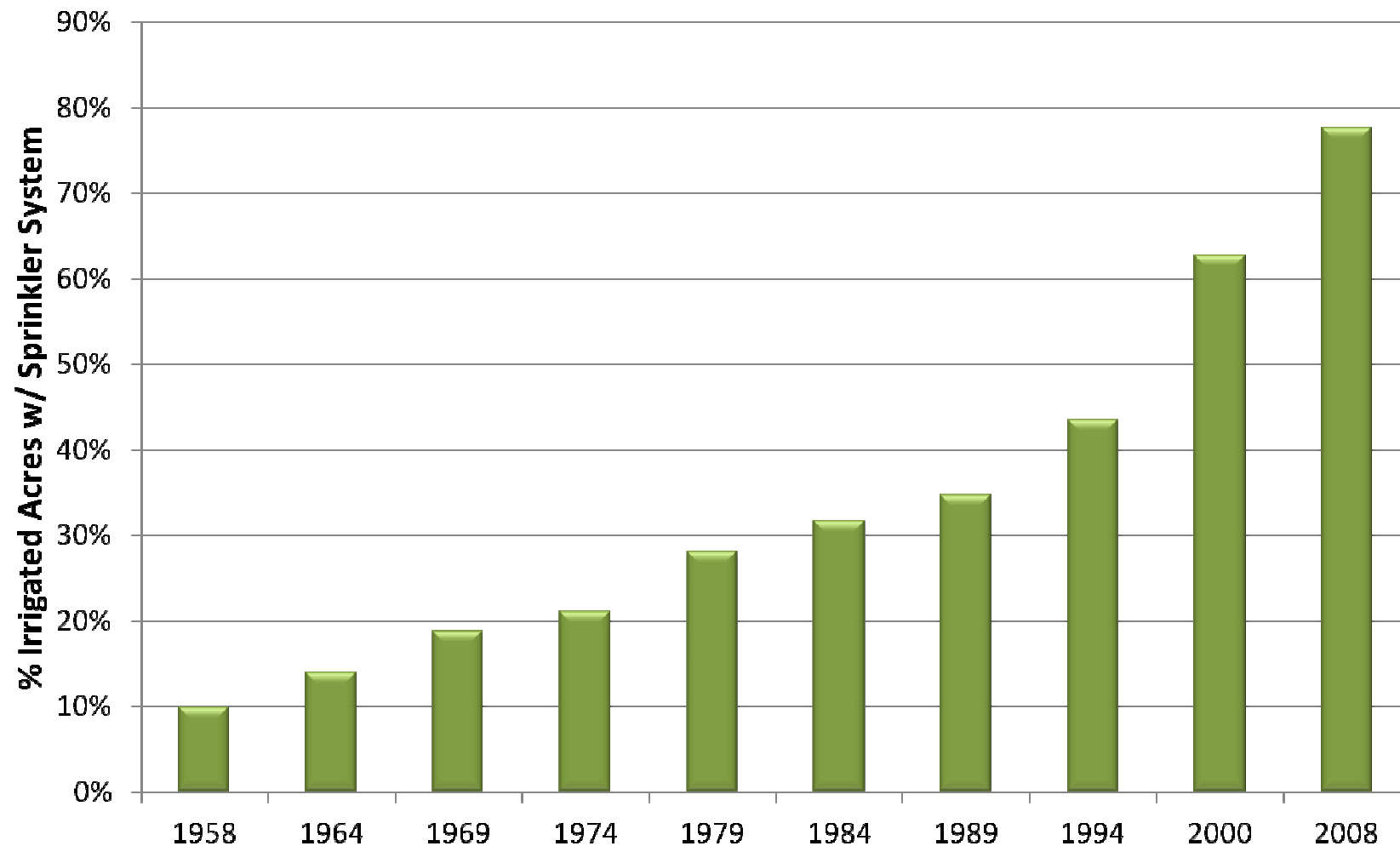
Source of water (on irrigated acre basis)



Source: TWDB Report 347

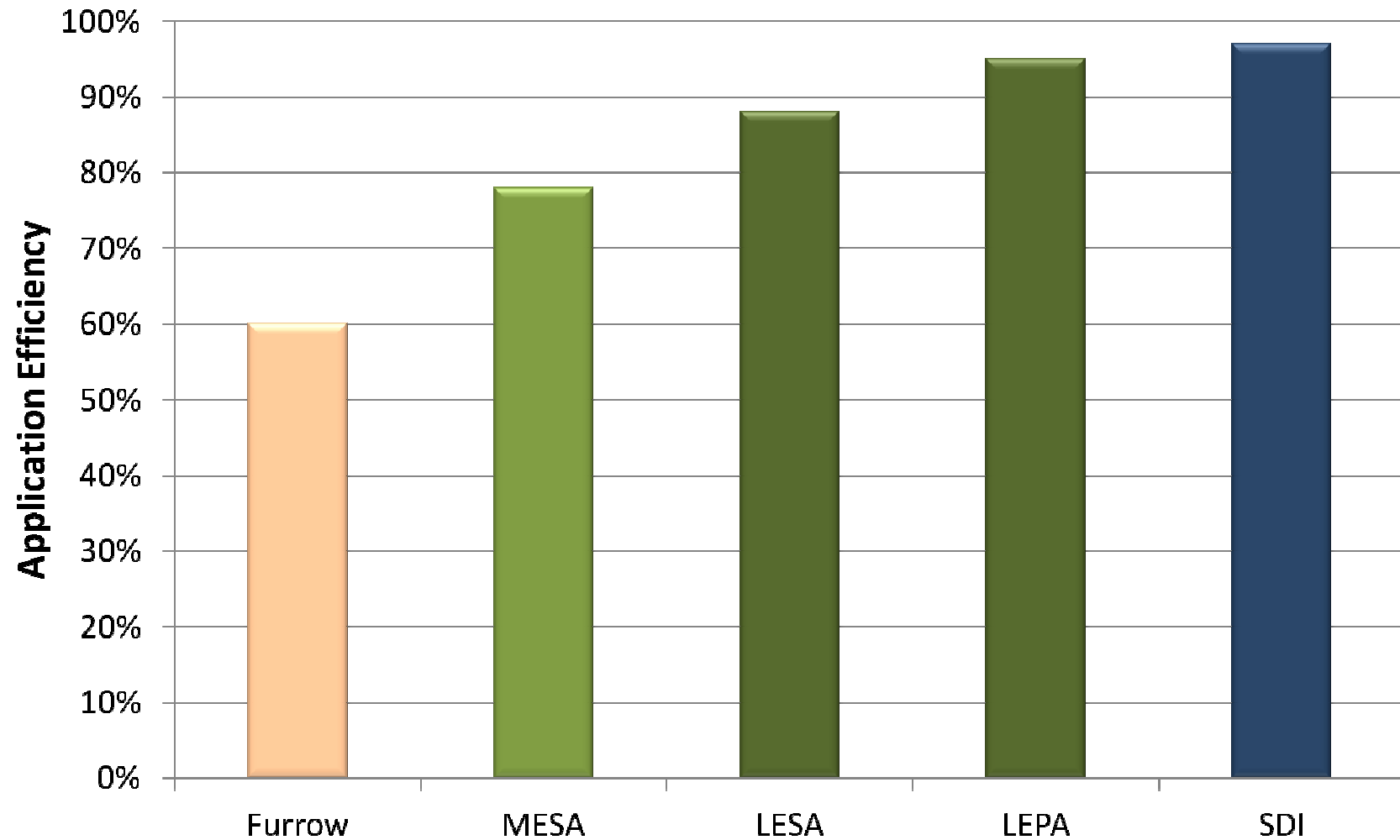


Adoption of efficient sprinkler systems



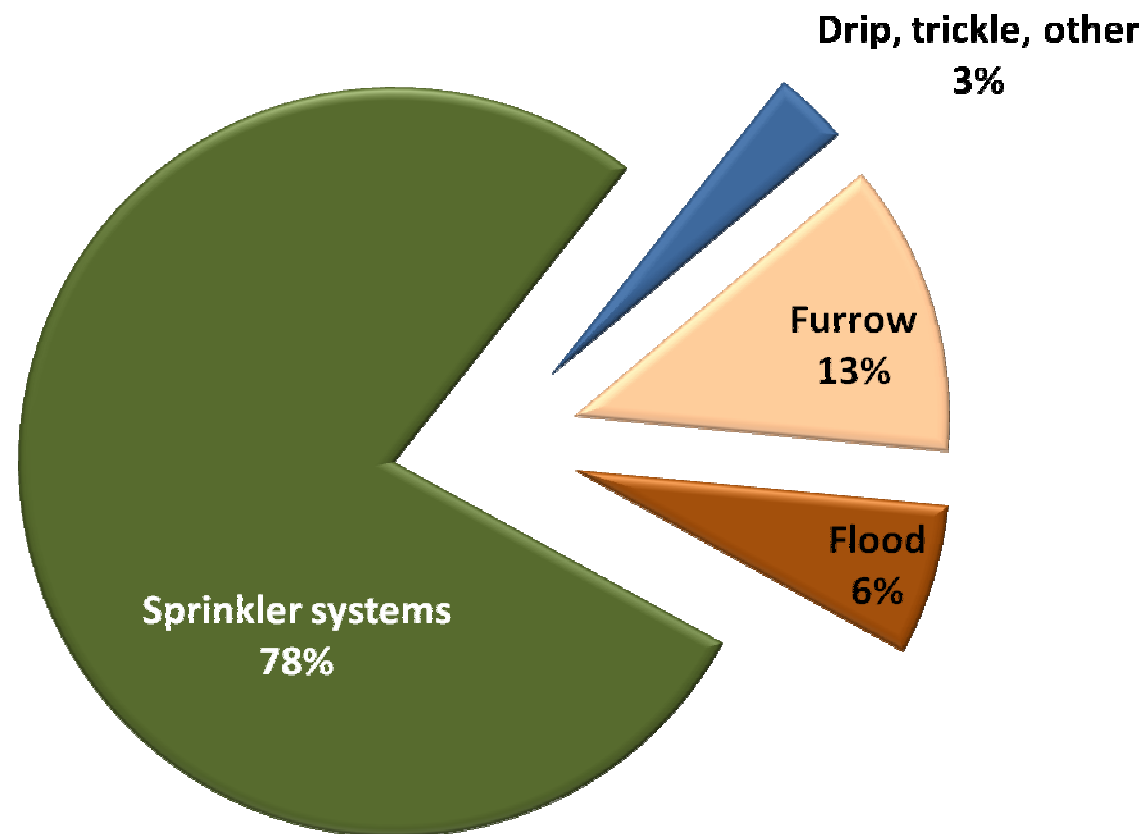


Application Efficiency of Irrigation Systems





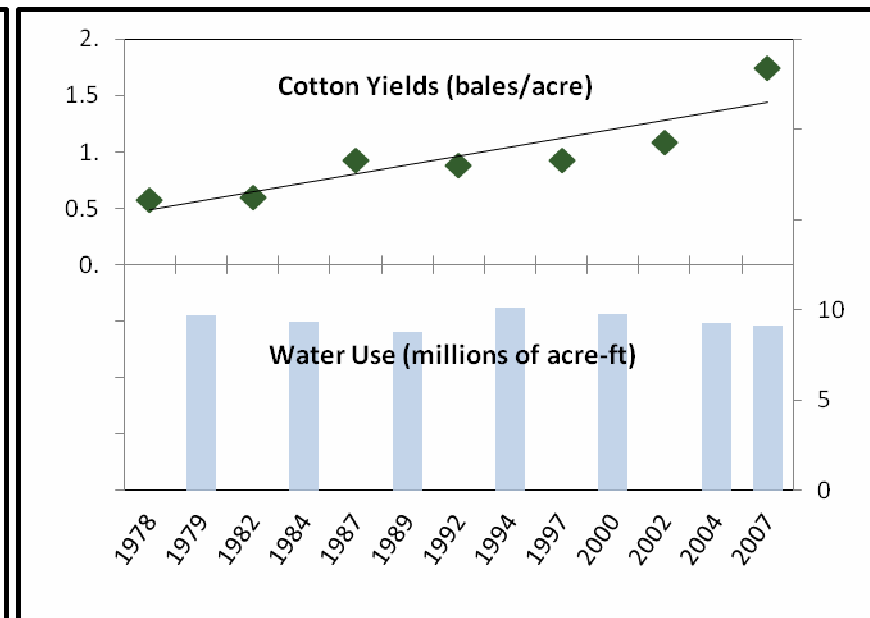
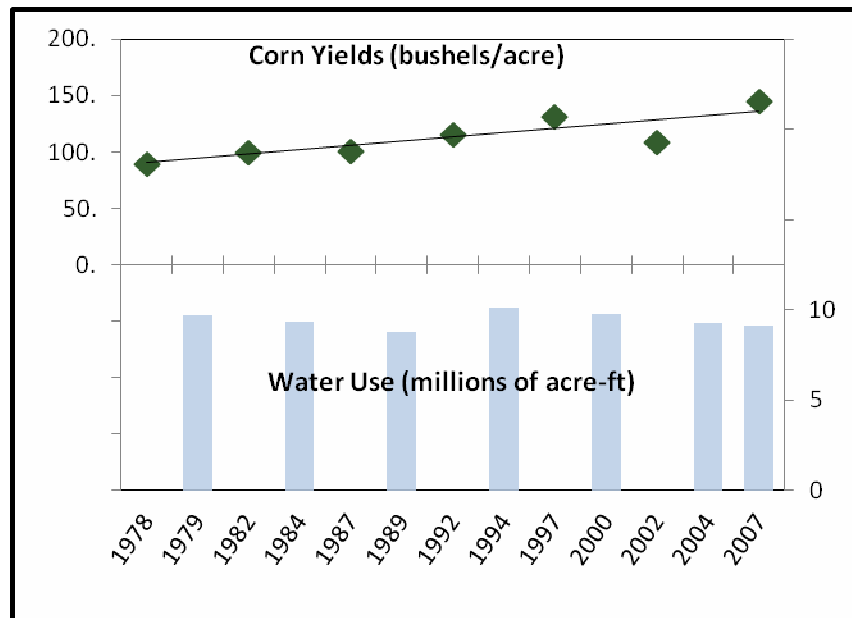
Irrigation system use in Texas





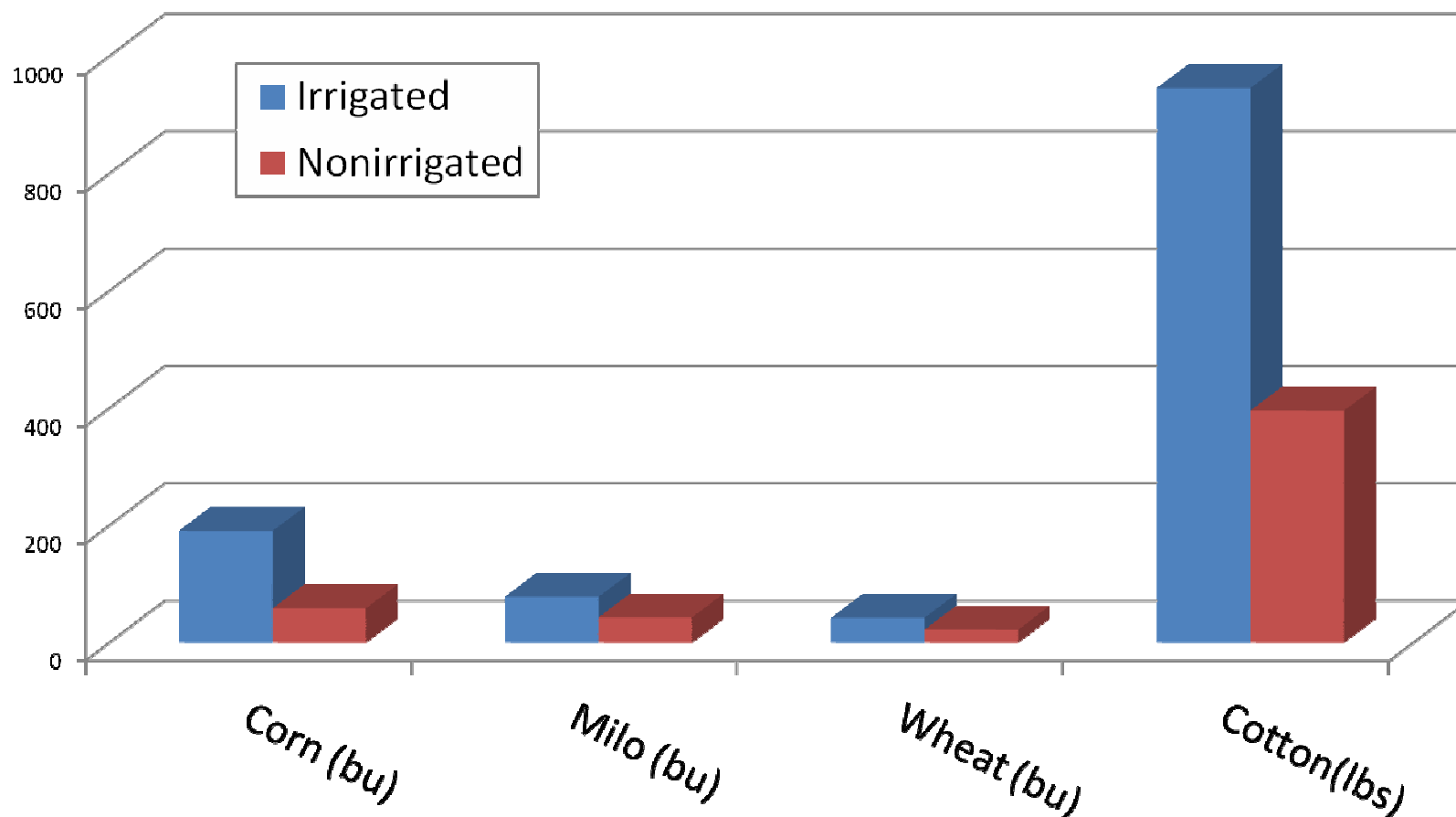
Increasing yields without increased irrigation

- Corn yields increased by 62% since 1975
- Cotton yields have doubled since 1975
- Improved irrigation technology/management, crop management & crop genetics





Crop yields with & without irrigation (2008-2009)



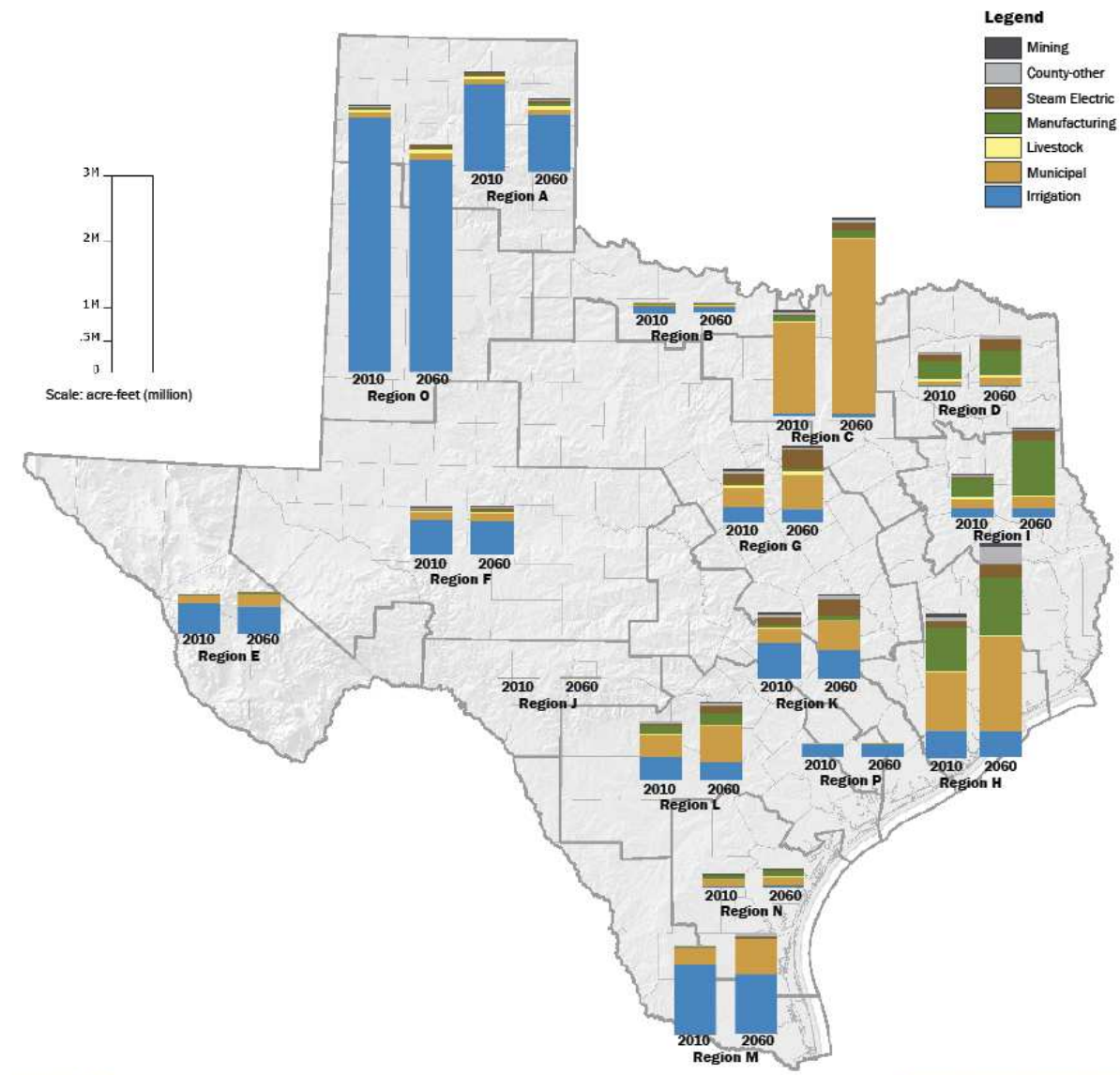


Future Challenges

- Declining aquifer levels
 - Projected to decrease by 32% by 2060
- Increasing urbanization/competition for water
 - >80% increase in population by 2060
 - Increasing food demands
 - Decreasing land available for irrigated agriculture
 - Decreasing surface water available for ag irrigation



Current and future water demands





	Municipal Demand		Irrigation Demand	
Region	Acre-feet change from 2010–2060	Percentage change from 2010–2060	Acre-feet change from 2010–2060	Percentage change from 2010–2060
A	19,521	29%	-493,061	-34%
B	-1,731	-5%	-8,603	-9%
C	1,370,125	91%	1,055	3%
D	45,640	51%	-776	-5%
E	72,867	60%	-47,210	-9%
F	13,004	11%	-26,832	-5%
G	244,596	75%	-24,155	-10%
H	589,757	61%	-19,245	-4%
I	37,753	25%	1,940	1%
J	4,411	21%	-3,586	-18%
K	228,062	95%	-120,942	-21%
L	227,925	62%	-77,347	-20%
M	321,519	124%	-181,886	-16%
N	40,405	40%	3,842	15%
O	6,447	7%	-711,855	-17%
P	251	5%	-18	0%

Projected changes in water demands

Source: Water for Texas – 2012 State Water Plan, TWDB, January 2012



Opportunities for Improving Agricultural Irrigation

- Improving Irrigation Scheduling
- Developing Improved Irrigation Water Management Technologies
- Adopting Drought Tolerant Crop Varieties
- Continuing Conservation Practices Adoption
- Improving Irrigation Conveyance Systems



Summary

- Irrigation is important to Texas
- Groundwater = primary source for irrigation
- Irrigation efficiency has increased significantly
- Yields have increased significantly without increased water use
- Challenges ahead due to declining aquifers & urbanization
- Solutions include adoption of new tools, crop varieties and tried and true conservation practices



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Questions?